

CLAIMS

What is claimed is:

1 1. A consumable order-assistance system for computer peripheral
2 devices, comprising:

3 a personal computer having a messaging system;
4 at least one computer peripheral device having a messaging system;
5 a communication link signal coupling the personal computer with a
6 provider of a consumable for the computer peripheral device; and

7 a user interaction site configured to receive a notification from the
8 computer peripheral device via the messaging system of a need to order a
9 consumable;

10 wherein the user interaction site is provided within one of: a single-
11 connection environment as an end user interface; an unmanaged network
12 environment as a workgroup administrator interface; and a server-based
13 centralized network environment as a centralized system administrator interface.

1 2. The consumable order-assistance system of claim 1 wherein
2 the personal computer and the computer peripheral device are connected with a
3 bus, and wherein the user interaction site comprises a printer driver of the
4 personal computer provided within a single-connection environment.

1 3. The consumable order-assistance system of claim 1 wherein
2 the personal computer and the computer peripheral device are provided within
3 an unmanaged network environment, the user interaction site comprises an
4 embedded web server of the computer peripheral device, and the embedded
5 web server generates and forwards a message to a user at the personal
6 computer to prompt ordering of a consumable.

1 4. The consumable order-assistance system of claim 1 wherein
2 the personal computer and the computer peripheral device are provided within a
3 network environment having a central server, the user interaction site comprises
4 a network administrator personal computer communicating with the server, and

5 a network management application provided on the server generates and
6 forwards a message to a network administrator.

1 5. The consumable order-assistance system of claim 1 wherein
2 the user interaction site comprises a centralized administrator interface
3 comprising a centralized purchaser, and wherein a centralized order-assistance
4 tool of a network server delivers a notification to the centralized purchaser of a
5 need to order a consumable.

1 6. The consumable order-assistance system of claim 1 wherein
2 the user interaction site comprises a user interface of the personal computer.

1 7. The consumable order-assistance system of claim 1 wherein
2 the user interaction site comprises a user interface for facilitating user access to
3 the computer peripheral device to receive notification of a need to order a
4 consumable for the computer peripheral device.

1 8. A computer-implemented self-adjusting consumable order-
2 assistance system which implements a program in which consumable
3 components of computer peripheral devices are replenished, the system
4 comprising:

5 a personal computer having a messaging system;
6 at least one computer peripheral device having a messaging system;
7 a communication link signal coupling the personal computer with a
8 provider of a consumable; and

9 a user interface comprising an end user interaction interface, a
10 workgroup administrator interface, or a centralized system administrator
11 interface, the end user interaction interface including the personal computer
12 configurable for interaction by a user that is exchanging information with a
13 computer peripheral device associated with the personal computer, the
14 workgroup administrator interface operative to manage one computer peripheral

15 device at a time, and the centralized system administrator interface
16 communicating with a server of a centralized network environment.

1 9. The system of claim 8 wherein the end user interaction system
2 comprises a printer driver of the personal computer.

1 10. The system of claim 8 wherein the workgroup administrator
2 interface comprises an embedded web server of the computer peripheral device.

1 11. The system of claim 8 wherein the centralized system
2 administrator interface comprises a network management application usable by
3 a network administrator.

1 12. The system of claim 8 wherein the end user interaction system
2 is provided within a single-connection environment comprising the personal
3 computer communicating with the computer peripheral device via a bus, and
4 wherein a single user has dedicated access to the personal computer.

1 13. The system of claim 8 wherein the workgroup administrative
2 interface comprises an embedded web server within the computer peripheral
3 device, and wherein the embedded web server comprises an interface for the
4 order-assistance system.

1 14. The system of claim 8 wherein the centralized system
2 administrator interface comprises a centralized order-assistance tool, and
3 wherein the centralized order-assistance tool is provided within a centralized
4 network environment having a server.

1 15. The system of claim 8 wherein the computer peripheral device
2 comprises an embedded web server, the personal computer and the computer
3 peripheral device are provided within an unmanaged network environment, and

4 the embedded web server initiates ordering of a consumable in response to a
5 detected need to replenish the consumable.

1 16. A method of providing order assistance, comprising:
2 providing a computer peripheral device, a personal computer having a
3 communication link with a provider of a consumable, a messaging system
4 extending between the computer peripheral device and the personal computer,
5 and a user interaction site;
6 determining an environment in which the computer peripheral device
7 and the personal computer are provided by detecting the presence of a parallel
8 cable or the presence of a network environment;
9 for the case where the presence of a network environment is
10 detected, further broadcasting a discovery protocol to detect the presence of a
11 centralized order-assistance solution; and
12 based on the determined environment, providing the user interaction
13 site in the form of: a user interface when the network environment comprises a
14 single-connection environment; an embedded web server when the network
15 environment comprises an unmanaged network environment; and a centralized
16 system administrator interface when the network environment comprises a
17 server-based, centralized network environment.

1 17. The method of claim 16 wherein, when the presence of a
2 parallel cable is detected, the network environment is determined to be a single-
3 connection environment, the computer peripheral device interacts at an end user
4 level.

1 18. The method of claim 16 wherein the network environment
2 comprises a single-connection environment, the user interface site comprises an
3 interface to a consumable order assistance computer program resident on the
4 personal computer, and the program provides an order location to a user for
5 purchasing a consumable.

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1 19. The method of claim 16 wherein the computer peripheral
2 device comprises an embedded web server, the network environment comprises
3 an unmanaged network environment, and the embedded web server initiates
4 ordering of a consumable in response to a detected need to replenish the
5 consumable.

1 20. The method of claim 16 wherein the personal computer
2 comprises a maintainer computer, the network environment comprises a
3 managed, centralized network environment having a server, and the server
4 sends a notification to the maintainer computer of a need to order a
5 consumable.